

## **OCCUPATIONAL GROUP: Engineering, Mathematics and Science**

### **CLASS FAMILY: Research and Statistics**

#### **CLASS FAMILY DESCRIPTION:**

**This family of positions includes those whose purpose is to conduct, lead, supervise or manage analyses of data, requiring the utilization of mathematical formulae and/or statistics.**

---

#### **CLASS TITLE: Research and Statistics Support Specialist**

#### **DISTINGUISHING CHARACTERISTICS:**

These positions perform full performance level work in the collection, compilation and analysis of data obtained from research studies, source documents and surveys. As proficiency is developed, incumbents are granted more independence and responsibility. These positions do not have budgetary responsibilities, but may serve as lead workers. Perform related work as required.

**EXAMPLES OF WORK:** *(Any specific position in this class may not include all of the duties listed; nor do the examples listed cover all of the duties which may be assigned.)*

- Reviews data for errors, ensuring data quality and accuracy.
- Identifies, corrects, investigates and/or explains anomalous data.
- Collects, compiles and analyzes data, maintaining applicable files and records.
- Designs and conducts research studies, devising data collection procedures and methods for dissemination of information.
- Prepares responses to surveys and questionnaires using data collected.
- Enters data, determining and assigning data codes.
- Creates statistical and narrative reports related to findings, including tables and charts for various entities, ensuring technical level is appropriate for audience's understanding.
- Provides information related to data reporting requirements.
- Makes recommendations based on findings to carry out agency specific goals and objectives.
- Oversees on-line data entry systems, display system and automated reporting systems.
- May prepare manuals and instructions related to data reporting.
- May serve as lead workers, overseeing data analyses.
- May perform grant management duties, from application to allocating funds within defined budgets.

#### **KNOWLEDGE, SKILLS AND ABILITIES:**

- Knowledge of state and federal laws, rules and regulations applicable to area of employment.
- Knowledge of research methodologies and statistics.

- Knowledge of data collection, compilation, and analysis procedures and techniques.
- Knowledge of automated reporting systems related to the area of employment.
- Knowledge of database management and statistical software programs
- May require knowledge of grants management.
- Ability to analyze data, determine its value, make observations and applications, and draw conclusions and prepare summaries from the data.
- Ability to design and implement research studies and surveys, conducting appropriate statistical techniques.
- Ability to manage databases, use statistical software, use reporting systems, as well as analyze and resolve reporting problems.
- Ability to establish and maintain effective work relationships.
- May require ability to organize and oversee personnel in the technical phases of research.
- May require ability to manage and oversee grants.

#### **MINIMUM QUALIFICATIONS:**

**Education:** A Bachelor's Degree from a regionally accredited college or university, including a course in research methodology or statistics.

**Experience:** 1-3 years full-time or equivalent part-time paid work experience related to Research and Statistics.

**Education & Experience Substitution:** Full-time or equivalent part-time paid experience related to Research and Statistics may substitute for the required education on a year-for-year basis. A Master's Degree from a regionally accredited college or university related to Research and Statistics may substitute for the required experience on a year-for-year basis.

**Certificates, Licenses, Registrations:** N/A

---

#### **CLASS TITLE: Research and Statistics Specialist 1**

#### **DISTINGUISHING CHARACTERISTICS**

These positions at full performance level work in the design, collection, compilation and analysis of data. These position may also manage grants and/or may serve as lead worker. Perform related work as required.

**EXAMPLES OF WORK:** *(Any specific position in this class may not include all of the duties listed; nor do the examples listed cover all of the duties which may be assigned.)*

- Reviews data for errors, ensuring data quality and accuracy.
- Identifies, corrects, investigates and/or explains anomalous data.
- Collects, compiles and analyzes complex data, maintaining applicable files and records.
- Designs and conducts complex research studies, devising data collection procedures and methods for dissemination of information.
- Prepares responses to surveys and questionnaires using data collected.
- Enters data, determining and assigning data codes.

- Creates complex statistical and narrative reports related to findings, including tables and charts for various entities, ensuring technical level is appropriate for audience's understanding.
- Provides information related to data reporting requirements.
- Makes recommendations based on findings to carry out agency specific goals and objectives.
- Oversees on-line data entry systems, display system and automated reporting systems.
- May prepare manuals and instructions related to data reporting.
- May serve as lead workers, overseeing data analyses.
- May perform grant management duties, from application to allocating funds within defined budgets.

#### **KNOWLEDGE, SKILLS AND ABILITIES:**

- Knowledge of state and federal laws, rules and regulations applicable to area of employment.
- Knowledge of research methodologies and statistics.
- Knowledge of data collection, compilation, and analysis procedures and techniques.
- Knowledge of automated reporting systems related to the area of employment.
- Knowledge of database management and statistical software programs.
- May require knowledge of grant management.
- Ability to analyze data, determine its value, make observations and applications, and draw conclusions and prepare summaries from the data.
- Ability to design and implement research studies and surveys, conducting appropriate statistical techniques.
- Ability to manage databases, use statistical software, use reporting systems, as well as analyze and resolve reporting problems.
- Ability to establish and maintain effective work relationships.
- May require ability to organize and oversee personnel in the technical phases of research.
- May require ability to manage grants.

#### **MINIMUM QUALIFICATIONS:**

**Education:** A Bachelor's Degree from a regionally accredited college or university, including a course in research methodology or statistics.

**Experience:** 2-4 years full-time or equivalent part-time paid work experience related to Research and Statistics.

**Education & Experience Substitution:** Full-time or equivalent part-time paid experience related to Research and Statistics may substitute for the required education on a year-for-year basis. A Master's Degree from a regionally accredited college or university related to Research and Statistics may substitute for the required experience on a year-for-year basis.

**Certificates, Licenses, Registrations:** N/A

---

**CLASS TITLE: Research and Statistics Specialist 2**

**DISTINGUISHING CHARACTERISTICS:**

These positions perform complex, full performance level work in research related to tax issues and policies and their impacts on economic and fiscal conditions. As proficiency is developed, incumbents are granted more independence and responsibility and oversee more difficult projects. These positions may serve as lead workers or supervise other professional or clerical staff. Perform related work as required.

**EXAMPLES OF WORK:** *(Any specific position in this class may not include all of the duties listed; nor do the examples listed cover all of the duties which may be assigned.)*

- Conducts highly complex studies of state taxes concerning the impact of legislation and policies on the economy and tax base.
- Conducts and/or oversees various research studies, reviewing and analyzing data.
- Composes statistical and narrative reports.
- Disseminates information to the public concerning the Division programs, state taxes and tax collections by preparing publications and responses to inquiries.
- Determines the impact on the state's economy and tax structure of federal legislation, policies and/or national or regional economic trends by reviewing and analyzing pending state legislation and by applying various analytical techniques.
- Reviews and analyzes reports to extract data.
- Develops methods to be employed in projects by continual evaluation and modification of the techniques involved.
- Analyzes tax and economic data by using computer programming or software packages.
- Maintains databases of information on various taxes and data.
- Prepares comprehensive reports or narratives.
- Attends meetings with public officials and other representatives.
- May assign, train and review the work of subordinates.

**KNOWLEDGE, SKILLS AND ABILITIES:**

- Knowledge of state and federal laws, rules, and regulations pertaining to taxations.
- Knowledge of statistical techniques and research methods.
- Knowledge of economic theory and analysis and the interpretation of the measures and indicators of economic activity.
- Knowledge of computer applications.
- Skill in the oral and written presentation of factual material.
- Ability to direct and coordinate the research and preparation of economic and taxation projects.
- Ability to interpret and apply complex laws, rules, and regulations.
- Ability to analyze facts and data to arrive at a logical conclusion based on these facts and data.
- Ability to apply various economic and statistical models to complex problems.
- Ability to establish and maintain an effective working relationship with state and federal government officials, business and industry officials, and public interest groups.
- Ability to apply computer programming techniques to analyze data.

- May require the ability to assign and supervise the work of both professional and clerical personnel.

**MINIMUM QUALIFICATIONS:**

**Education:** A Master's Degree from an accredited university in public or business administration, economics, statistics, mathematics, public policy, finance, operations research, regional planning, urban studies, geology, mining engineering, petroleum land management, computer science, industrial engineering or system analysis or a closely related field.

**Experience:** 3-5 years full-time or equivalent part-time paid work experience related to mineral and/or economic research and analysis.

**Education & Experience Substitution:** Undergraduate degree in any of above disciplines plus two years additional experience in mineral and/or economic research and analysis may substitute for the required education. Two years of full-time employment in the State Tax Division in a related area of assignment may be substituted for the experience requirement.

**Certificates, Licenses, Registrations:** N/A

---

**CLASS TITLE: Actuarial Analyst****DISTINGUISHING CHARACTERISTICS:**

These positions, under general supervision, apply advanced level mathematical, statistical and actuarial methods in the performance of actuarial functions, typically serving as an assistant to an agency or consulting actuary. Perform related work as required.

**EXAMPLES OF WORK:** *(Any specific position in this class may not include all of the duties listed; nor do the examples listed cover all of the duties which may be assigned.)*

- Assists agency or contracted actuary.
- Performs or assists with statistical analyses, reviewing information to assist in making actuarial and financial decisions related to the plan.
- Performs actuarial valuations.
- Reconciles data, checking for and ensuring accuracy.
- Utilizes actuarial software to evaluate the financial impact of legislation.
- Analyzes issues related to proper administration of the plans, including legal issues and/or unique situations.
- Responds to questions and requests about actuarial issues.
- Calculates actuarial factors for plan administration.
- Assists in preparing reports, researching and providing actuarial data for inclusion.
- Reviews reports, tables and graphs and other communications prepared by the actuary before they are released.

**KNOWLEDGE, SKILLS AND ABILITIES:**

- Knowledge of mathematics, calculus, statistics, and probability.
- Knowledge of standard casualty actuarial policies and methodologies.

- Knowledge of basic actuarial practices, rate structures.
- Knowledge of all laws, codes, policies and regulations specific to area of assignment.
- Skill in abstract reasoning, logic and analysis with particular strength in mathematical talents and training.
- Skill in problem recognition and problem solving.
- Skill in using actuarial software.
- Ability to perform detailed analysis of numerical and statistical data.
- Ability to prepare complex statistical reports.
- Ability to perform advanced algebra and multi-variable equations.
- Ability to comprehend and apply abstract concepts and reasoning to commonplace events.
- Ability to communicate effectively, both orally and in writing.
- Ability to maintain effective working relationships with other employees, employers and government officials.

#### **MINIMUM QUALIFICATIONS:**

**Education:** Bachelor's Degree from a regionally accredited college or university

**Experience:** 1-3 years full-time or equivalent part-time paid experience related to Research and Statistics

**Education & Experience Substitution:** N/A

**Certificates, Licenses, Registrations:** Some positions may require the completion of an exam in the area of assignment.

---

**CLASS TITLE:** Actuary

#### **DISTINGUISHING CHARACTERISTICS:**

These positions, under administrative direction, perform highly complex professional actuarial work managing the actuarial functions relating to the delivery of benefits. They may manage the work of an Actuarial Unit, supervising and directing actuarial staff, as well as developing policies and procedures. These positions are responsible for the development and advocacy of policy positions and the evaluation and approval of the reasonableness and supportability of actuarial analyses. They typically advise the Executive Director, senior management, financial staff, Boards and legislative committees on actuarial issues and findings. They may defend the actuarial analyses and findings in public hearings, legislative committees and court proceedings. Perform related work as required.

**EXAMPLES OF WORK:** *(Any specific position in this class may not include all of the duties listed; nor do the examples listed cover all of the duties which may be assigned.)*

- Supervises and directs all actuarial and contracted staff.
- Oversees actuarial analyses and studies.
- Conducts peer reviews of contracted actuarial analyses.
- Oversees the development of policy, procedures and actuarial techniques and standards.

- Resolves complex actuarial problems requiring extensive knowledge in actuarial theory.
- Testifies and appears before legislative hearings and committees or other forums to explain and defend the actuarial policy.
- Advises the, Executive Director, financial staff, Boards, legislative leaders, the Governor and other stakeholder groups on actuarial basis for premium rates, benefit levels and reserve projections.
- Drafts proposed legislation and evaluates actuarial impact of such.
- Oversees the production of financial statements on reserve projections and other statements of liabilities and assets.
- Evaluates the risk classification rating program, retrospective rating plans and other premium discount plans for actuarial soundness.

#### **KNOWLEDGE, SKILLS AND ABILITIES:**

- Extensive knowledge of advanced mathematics, calculus, statistics, probability and business administration.
- Extensive knowledge of health care actuarial theories, policies, methodologies and concepts and procedures.
- Extensive knowledge of health care insurance actuarial practices, reserving and rate structures.
- Extensive knowledge of the federal tax law and West Virginia State code pertaining to area of assignment.
- Skill in the use of a personal computer especially in the area of spreadsheets applications.
- Ability to properly perform advanced algebra and multivariate equations and properly apply mathematical concepts and perform actuarial calculations.
- Ability to properly interpret and apply federal tax law and the West Virginia State code pertaining to area of assignment.
- Ability to effectively direct the work of others.
- Ability to properly prepare complex statistical reports.
- Ability to communicate effectively, both orally and in writing.
- Ability to maintain effective working relationships with other employees, employers and government officials.

#### **MINIMUM QUALIFICATIONS:**

**Education:** Bachelor's Degree from a regionally accredited college or university

**Experience:** 4-6 years full-time or equivalent part-time paid experience related to Research and Statistics

**Education & Experience Substitution:** N/A

**Certificates, Licenses, Registrations:** Fellow (FCAS) or Associate (ACAS) in the Casualty Actuarial Society and Member (MAAA) of the American Academy of Actuaries is required.

---

**CLASS TITLE: Research and Statistics Manager**

**DISTINGUISHING CHARACTERISTICS:**

These positions, under administrative direction, perform complex administrative, managerial and supervisory work with responsibility for a major evaluation unit in a state agency. They ensure compliance with agency, state and federal rules and regulations. These positions supervise professionals who conduct research and advanced computer analyses. Perform related work as required.

**EXAMPLES OF WORK:** *(Any specific position in this class may not include all of the duties listed; nor do the examples listed cover all of the duties which may be assigned.)*

- Manages a unit comprised professional researchers and data analysts responsible for evaluating a state agency's programmatic activities, ensuring effective and effective operations.
- Through review, ensures the fulfillment of the agency's goals and objectives.
- Ensures the unit's work is compliant with federal performance benchmarks and reporting requirements.
- Oversees the generation of statistical and narrative reports.
- Makes recommendations pertaining to strategic planning activities, agency policies and performance improvements.
- Collects, updates and disseminates programmatic information and statewide statistics to federal, state and agency personnel.
- Provides technical assistance to the agency staff on program evaluation activities and statistical reporting.
- Sets and controls unit's budget.

**KNOWLEDGE, SKILLS AND ABILITIES:**

- Knowledge of programmatic policies and procedures, including federal requirements governing program operation.
- Knowledge of program evaluation theories and practices.
- Knowledge of research methodologies and data analysis techniques.
- Knowledge of the best practices in resources management and strategic planning.
- Ability to identify, through evaluation, programmatic improvements.
- Ability to project and forecast, establishing program's goals and objectives.
- Ability to lead/and or conduct empirical research.
- Ability to develop complex database design, management and analysis.
- Ability to validate statistical findings.
- Ability to establish and maintain effective working relationships.

**MINIMUM QUALIFICATIONS:**

**Education:** Master's Degree from a regionally accredited college or university related to area of employment

**Experience:** 2-4 years of full-time or equivalent part-time paid experience related to Research and Statistics

**Education & Experience Substitution:** N/A



**Certificates, Licenses, Registrations:** N/A

---

**CLASS TITLE: Research and Statistics Manager Senior**

**DISTINGUISHING CHARACTERISTICS:**

These positions are responsible for the management and administrative oversight of a unit within a state agency and coordinate all aspects of statistical data collection associated with vital events, behavioral risk factors, chronic diseases and health care attitudes. They supervise advanced level epidemiologists and programmers and may have budgetary responsibilities. These positions ensure the accuracy and timely publications of multiple reports. Perform related work as required.

**EXAMPLES OF WORK:** *(Any specific position in this class may not include all of the duties listed; nor do the examples listed cover all of the duties which may be assigned.)*

- Manages a unit comprised professional staff responsible for , researching, identifying, tracking and analyzing disease trends, ensuring effective and effective operations.
- Performs and/or oversees the generation of statistical and narrative reports related to findings, with final approval before public dissemination.
- Establishes content, timelines and format for Vital Statistics, the CDC's Behavioral Risk Factor Surveillance System and other topic or disease specific reports.
- Disseminates research findings through presentations, workshops and conferences.
- Performs general administrative duties and personnel transactions.
- Provides technical assistance to community, State and National organizations.
- Ensures that requests for data are acknowledged and fulfilled in a timely manner.
- Determines, identifies and implements strategies to meet staff training needs.

**KNOWLEDGE, SKILLS AND ABILITIES:**

- Knowledge of agency specific policies, procedures, rules and regulations.
- Knowledge of research methodologies and data analysis techniques, particularly related to epidemiological and statistical methods and procedures.
- Ability to supervise and direct the activities of staff.
- Ability to lead/and or conduct empirical research, validating statistical findings.
- Ability to apply epidemiological/statistical methods in assessing public health problems and concerns.
- Ability to present statistical information in both oral and written formats to a variety of audiences.
- Ability to establish and maintain effective working relationships.

**MINIMUM QUALIFICATIONS:**

**Education:** Master's Degree from a regionally accredited college or university related to area of employment

**Experience:** 2-4 years of full-time or equivalent part-time paid experience related to Research and Statistics

**Education & Experience Substitution:** N/A

**Certificates, Licenses, Registrations:** N/A

---

**CLASS TITLE: Research and Statistics Director**

**DISTINGUISHING CHARACTERISTICS:**

These positions serve as Division Directors, overseeing information systems and research programs, involving partnerships with federal agencies. They establish standards and priorities for the design and completion of research projects. These positions provide analyses, reports and commentary to executive management, state government and public officials, the media, and the general public. They may manage section managers and have budgetary responsibilities, with input into setting a budget. Perform related work as required.

**EXAMPLES OF WORK:** *(Any specific position in this class may not include all of the duties listed; nor do the examples listed cover all of the duties which may be assigned.)*

- Supervises the planning, organizing, implementation and evaluation of all work in the area of employment.
- Oversight and ongoing review and analysis of local, state and national economies and related research activities.
- Directs the development and implementation of policies and procedures in the area of assignment.
- Supervises the monitoring of division activities to determine compliance with state and federal regulations, policies and work standards.
- Oversees staff, agency management information systems and employment services management systems.
- Directs and coordinates economic research and analysis programs and projects, coordinating with federal partner agencies.
- Establishes standards and priorities for design and completion of research projects and the development or upgrade of publications.
- Provides analyses, reports and commentary to superiors, public officials and the general public.
- Responsible for setting and controlling budget.
- Serves as a liaison to and coordinates with other agencies to better serve the state's workforce development needs.
- Oversees the coordination of reporting to federal funding entities to ensure compliance with requirements.

**KNOWLEDGE, SKILLS AND ABILITIES:**

- Knowledge of local, state and national economies.
- Knowledge of agency specific mission, policies, procedures, rules and regulations.

- Knowledge of research methodologies and data analysis techniques.
- Knowledge of information technology software and hardware.
- Knowledge of budget administration and guidelines.
- Knowledge of rules and regulations related to personnel management.
- Ability to communicate effectively both orally and in written format.
- Ability to conduct and/or oversee data analyses.
- Ability to understand technical guidelines and information.

**MINIMUM QUALIFICATIONS:**

**Education:** Master's Degree from a regionally accredited college or university related to area of employment

**Experience:** 3-5 years of full-time or equivalent part-time paid experience related to Research and Statistics

**Education & Experience Substitution:** N/A

**Certificates, Licenses, Registrations:**

---

**CLASS TITLE: Research and Statistics Director Senior**

**DISTINGUISHING CHARACTERISTICS:**

These positions, under administrative direction, perform complex administrative work in managing a state research center. They conduct complex studies and oversee staff in creating research databases, developing research and statistical methodologies and preparing research reports for government officials. These positions have budgetary responsibilities and supervise a staff of multi-disciplinary research analysts and data entry operators. Perform related work as required.

**EXAMPLES OF WORK:** *(Any specific position in this class may not include all of the duties listed; nor do the examples listed cover all of the duties which may be assigned.)*

- Plans, develops and implements specialized research techniques and analytical procedures.
- Makes administrative and technical arrangements for multiple research projects.
- Supervises and coordinates the activities of research staff; schedules and designates areas where research is to be performed and creates protocols to be followed.
- Performs complex scientific data analysis requiring use of independent judgment and interprets results based on relevant technical expertise.
- Performs complex data analysis, employing statistical software packages.
- Writes detailed reports on the results of research and supervises the preparation of the manuscript of publication.
- Reviews journals, abstracts and literature for relevant information in order to design and develop original research procedures and techniques.
- Communicates with other research professionals working on related research to share pertinent information.

- Guides research fellows, staff, students and contractors with their research.
- Provides expertise and training in methodology, use of equipment and techniques.
- Serves as liaison/coordinator for multi-disciplinary or multiagency research projects.
- Administers and reviews budget or grant expenses to ensure expenditures are within allotted spending budget.
- Authors articles and papers on the research conducted to be submitted for publication in national or international professional publications.
- Attends and participates in professional meetings and conferences.

#### **KNOWLEDGE, SKILLS AND ABILITIES:**

- Knowledge of the theories and literature specific to area of assignment.
- Knowledge of contemporary research methods, data collection and analysis and skill in their application.
- Knowledge of practical and potential values of research and experimentation specific to area of assignment.
- Knowledge of the form and style of research reporting and manuscript preparation.
- Skill in the use of computers and statistical analysis packages.
- Ability to select and supervise subordinates research staff and individuals from related disciplines.
- Ability to design effective and efficient research projects.
- Ability to effectively communicate to others complex concepts relating to testing and research.
- Ability to conduct evaluation and analysis of existing techniques and procedures and to devise new techniques and procedures.
- Ability to establish and maintain effective professional relationships with internal and external research personnel.

#### **MINIMUM QUALIFICATIONS**

**Education:** Master's Degree from a regionally accredited college or university related to area of employment

**Experience:** 3-5 years of full-time or equivalent part-time paid experience related to Research and Statistics

**Education & Experience Substitution:** N/A

**Certificates, Licenses, Registrations:**

---